Book Review

By: Jaime Paster

Embarking on the journey of integrating artificial intelligence (AI) into teaching requires a reliable guide, and the book *A Beginner's Guide to Introduce Artificial Intelligence in Teaching and Learning* by Kurni, Mohammed, & Srinivasa (2023) stands out as an invaluable resource. The authors adeptly navigated the complexities of AI technology and presented a clear and concise overview of its basics, applications in education, and potential benefits and risks. The book covers diverse topics of interest to teachers and educators alike, from Intelligent Tutoring Systems and Natural Language Processing to AI-enabled gamification strategies in class and ethical considerations for AI use. Its strength lies in its practical focus, offering educators tangible insights and examples of AI's applications in the classroom. This book is an excellent foundation for teachers seeking to harness the power of AI to enhance the teaching and learning experience.

The first chapter provides a clear overview of the basics of artificial intelligence (AI) and its potential applications in education. The authors explain what AI is, how it works, and the different types of AI technologies. They also discussed in part the potential benefits and risks of using AI in education. One of the strengths of this chapter is its clear and concise explanation of AI concepts. The authors use simple language and avoid jargon, making the chapter accessible to readers with no prior

knowledge of AI. The authors also did a good job of explaining the potential benefits of using AI in education, such as personalizing instruction, generating instructional content, task automation, and as an assistive technology for individuals with disabilities. In this chapter, the authors also provided a glimpse into the ethical concerns regarding the use of AI in education, and they concluded with light on AI technology as a tool used in real-world education rather than a threat to replacing teachers in the teaching-learning process.

Chapter 2 discussed intelligent tutoring systems (ITSs), which are computer-based programs that can provide personalized instruction to students. The authors explained how ITSs work, the different types of ITSs, and the benefits of using ITSs in education. The chapter provides a comprehensive overview of ITSs, including their history, development, and current state. They also explain the benefits of using ITSs in education, such as improving student learning outcomes, increasing student engagement, and supporting teachers. A teacher's major takeaway from this chapter is its focus on the research on ITSs. The authors cited numerous studies that demonstrated the effectiveness of ITSs in improving student learning outcomes. The chapter also includes a discussion of the challenges and limitations of ITSs.

Chapter 3 explored natural language processing (NLP) in education. NLP is a field of AI that deals with the interaction between computers and human language. The authors explained how NLP can be used to develop educational tools and resources that can help students learn and practice language skills. The chapter provides a good overview of the different ways that NLP can be used in education. The authors discussed how NLP can be used to develop language learning apps, educational games, and assessment tools. They also explain the benefits of using NLP in education, such as improving student language skills, increasing student engagement, and providing teachers with insights into student learning. A key insight of this chapter is its focus on the practical applications of NLP in education. The authors provided several concrete examples of how NLP is being used in education today. This makes the chapter more relevant and accessible to educators who are interested in using NLP in their teaching practice.

Chapter 4 ventured into predictive analytics in education. Predictive analytics is a field of AI that uses data to predict future events. The authors explained how predictive analytics can be used to identify students who are at risk of falling behind, to recommend personalized learning resources, and to predict student performance on assessments. The chapter provides a comprehensive overview of predictive analytics in education. The authors explained the different types of predictive analytics models and how they can be used to support teaching and learning. They also discuss the benefits of using predictive analytics in education, such as improving student learning outcomes, reducing dropout rates, and instructional planning. One of the strengths of this chapter is its focus on the ethical implications of using predictive analytics in education. The authors discuss the potential biases of predictive analytics models and the importance of using these models fairly and equitably. They also guided the readers on how to implement predictive analytics ethically.

In chapter 5 the authors examined the use of AI for mobile learning. Mobile learning is the use of mobile devices, such as smartphones and tablets, for learning. The authors explained how AI can be used to enhance mobile learning experiences and provide students with personalized instruction and feedback. The chapter provides a good overview of the different ways that AI can be used in mobile learning. The authors discuss how AI can be used to develop personalized learning apps, adaptive learning paths, and gamified learning experiences. In this chapter, teachers can equally weigh the current use, potential applications, and real-world challenges of the use of AI for mobile learning.

Chapter 6 examined the use of AI-enabled gamification in education. Gamification is the use of game design elements and principles in non-game contexts. The authors explained how AI can be used to develop gamified educational experiences that are more engaging and motivating for students. The chapter provided a comprehensive overview of AI-enabled gamification in education by discussing the different ways AI can be used to gamify learning and allow the developing of adaptive learning paths, personalized feedback, and the creation of reward systems. The authors cited studies that point at AI-enabled gamification as precursors to the improvement of student engagement, motivation, and learning outcomes.

Ideally, this chapter laid out arguments and instances that demonstrate the effectiveness of AI-enabled gamification. The chapter concluded with a discussion of the challenges and limitations of AI-enabled gamification.

Chapter 7 talked about the use of augmented reality (AR) and virtual reality (VR), in collaboration with AI technology for education. AR and VR are technologies that can create immersive and interactive experiences for users. AI can be used to develop AR and VR educational applications to help students learn in new and exciting ways. The chapter provides a good overview of the different ways that AR and VR with AI can be used in education. The authors discussed how AR and VR are used to create simulations, virtual worlds, and interactive learning experiences. They also explain how AI can be used to personalize these experiences and provide students with real-time feedback. One of the strengths of this chapter is its focus on the practical applications of AR and VR. The authors provide several concrete examples of how these technologies are being used in education today. Teachers can take advantage of this chapter by reflecting on how AR and VR work with AI technology to make more relevant and accessible learning encounters.

Chapter 8 touched upon the use of AI-based online/eLearning platforms. AI can be used to develop online/eLearning platforms that can provide students with self-paced learning environments that adapt to the needs of each student. The chapter provided a good overview of the different ways that AI can be used in online/eLearning platforms. The authors discuss how AI can be used to develop personalized learning paths, provide real-time feedback, and create adaptive learning experiences. They also explained the benefits of using AI-based online/eLearning platforms, such as improving student learning outcomes, increasing student engagement, and providing teachers with insights into student learning. A major takeaway for teachers of this chapter is embodied in the discussion of the potential for AI to create more personalized, engaging, and effective online learning experiences. Equally important is how the authors carefully presented the limitations of AI-based online/eLearning platforms, with these teachers will be informed on the opportunities that AI technology offers to teaching and learning but also allowed teachers to make an honest valuation on its implementation.

Chapter 9 examined the concept of AI-enabled smart learning. Smart learning is a personalized and adaptive approach to teaching and learning that uses AI to deliver the right learning content to the right student at the right time. The chapter provided a good overview of the key features of AI-enabled smart learning. The authors discuss how AI can be used to personalize learning content, provide real-time feedback, and adapt learning paths to the needs of each student. They also cited relevant studies that bridge AI technologies' influence on smart learning and the benefits of using AI-enabled smart learning, such as improving student learning outcomes, increasing student engagement, and reducing teacher workload. This chapter will walk teachers through the potential of AI-enabled smart learning in transforming teaching and learning.

Chapter 10 is an elucidation on the use of chatbots for education. Chatbots are computer programs that can simulate conversations with humans, some would recognize them as conversational AI. The authors explained how AI is used to leverage educational chatbots that provide students with personalized instruction and feedback, and that can help students learn at their own pace. The chapter provides a good overview of the different ways that chatbots can be used in education. The authors highlighted how chatbots can be used to provide students with tutoring, writing assistance, and feedback generators on assignments. Using chatbots in education promises to improve student learning outcomes, increase student engagement, and provide students with access to educational support 24/7. One of the strengths of this chapter is its focus on the practical applications of chatbots in education. The authors provided several concrete and up-to-date examples of how chatbots are being used in education.

Chapter 11 delved into the use of AI-assisted remote proctored examinations. AI can be used to develop remote proctored examination systems that can detect and prevent cheating. This helps protect the integrity of online assessments and ensures that students are earning their grades fairly. The chapter provided a good overview of the different ways that AI can be used to proctor online examinations. The authors discuss how AI-based software can be used to detect suspicious behavior, such as students looking away from the screen or accessing unauthorized materials. The benefits of using AI-assisted remote proctored examinations were also properly explained,

this includes reduced cost of proctoring and making it easier for students to take exams remotely. This chapter significantly positions itself in this book with its focus on the potential use of AI-assisted remote proctored examinations. The authors also made a coercive discussion on the potential for these systems to be biased and to invade student privacy. Lastly, they provided a guide on how to use AI-assisted remote proctored examinations ethically.

In chapter 12 the authors scrutinized the ethical implications of using AI in education. The authors explored the potential benefits and risks of using AI in education, and they laid a guide on how to use AI ethically in educational settings. The chapter provides a comprehensive overview of the ethical issues surrounding the use of AI in education. The discussion focused on issues such as bias, privacy, and transparency. They also clarified the importance of ensuring AI use, in a way that is fair and equitable for all students. One of the strengths of this chapter is its focus on practical guidance for educators on how to use AI ethically in their classrooms. The authors provide a multitude of specific recommendations, such as being transparent about how AI is being used, protecting student data privacy, and ensuring that AI is used in a way that is fair and equitable.

In conclusion, this book is a good reference for teachers in navigating their way to the dynamic field of artificial intelligence (AI) in education. A domain that is marked by continuous innovation and emerging applications. It may be rendered that it is impossible for a single book to encapsulate all possible uses comprehensively as AI is vibrant and rapidly advancing. However, having an introductory guidebook to complement practical knowledge and experiences in addition to ongoing research. Teachers can stay abreast with the latest developments in the inevitable integration of AI in the classroom. *A Beginner's Guide to Introduce Artificial Intelligence in Teaching and Learning* is an excellent resource for any educator as it is well-written, comprehensive, and practical.

Affiliation

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